

CLAIMS

1. A deformable mat, especially for producing molded parts consists of at least one web comprising at least one reinforcing substance and at least one thermoplastic substance, these substances being in the form of at least one continuous yarn and/or chopped yarns, and the yarns being bonded together so that the mat has an elongation at break in all directions of at least 50% and preferably varying from 100 to 150%.
2. The mat as claimed in claim 1, characterized in that the yarns consist completely or partly of filaments of a reinforcing substance and filaments of a thermoplastic substance.
3. The mat as claimed in claim 2, characterized in that the yarns comprise at least 50% or preferably at least 80%, by weight of commingled yarns.
4. The mat as claimed in claim 3, characterized in that the commingled yarns consist of glass filaments and filaments of a thermoplastic organic substance, preferably polypropylene.
5. The mat as claimed in one of claims 1 to 4, characterized in that it contains at least 10%, preferably 30% to 85%, by weight of reinforcing substance.
6. The mat as claimed in one of claims 1 to 5, characterized in that the chopped yarns have a length of less than 100 mm, preferably between 20 and 60 mm.
7. The mat as claimed in one of claims 1 to 6, characterized in that it has a porosity ranging from 65 to 80%.
8. The mat as claimed in one of claims 1 to 7,

characterized in that it has a weight per unit area of at least 700 g/m², preferably less than 4000 g/m².

9. A process for manufacturing a deformable mat as claimed in one of claims 1 to 8, which comprises the steps consisting in:

- depositing, on a moving substrate, at least one continuous yarn and/or chopped yarns comprising at least one reinforcing substance and at least one thermoplastic substance in order to form a web;
- subjecting the web to a treatment for bonding the yarns together in order to form a deformable mat; and
- collecting the material.

15

10. The process as claimed in claim 9, characterized in that the yarn bonding treatment is carried out by stitch-bonding with a binding thread that is finer than the yarns of the web.

20

11. The process as claimed in claim 10, characterized in that the binding thread has a linear density of between 40 and 300 dtex and in that the bonding is carried out by stitching.

25

12. The process as claimed in claim 9, characterized in that the yarn bonding treatment is carried out mechanically, by moderate needle punching or by exposure to pressurized water jets.

30

13. The process as claimed in claim 9, characterized in that the yarn bonding treatment is carried out by localized melting of the thermoplastic substance, especially by corona discharge or by ultrasound.

35

14. The process as claimed in claim 9, characterized in that the yarn bonding treatment is carried out by provision of a hot-melt adhesive.

15. The use of the material as claimed in one of claims 1 to 9 for manufacturing composite parts by molding.

- 5 16. The use as claimed in claim 15, characterized in that the molding is vacuum molding or compression molding.